

# Industry Leaders' Thoughts - Volvo Trucks North America



INTERVIEW WITH MR FRANK A. BIO, DIRECTOR OF SALES DEVELOPMENT, SPECIALTY VEHICLES AND ALTERNATE FUELS VOLVO GROUP SALES AND MARKETING AMERICAS.

## What were the reasons behind Volvo's move into the Natural Gas Vehicle market?

Environmental care is one of our core values. We first stated our position in 1972 at the United Nations Conference on the Human Environment.

The conference in Stockholm, Sweden was opened and addressed by the Swedish Prime Minister Olof Palme and Secretary-general Kurt Waldheim to discuss the state of the global environment. Attended by the representatives of 113 countries, 19 inter-governmental agencies, and more than 400 inter-governmental and non-governmental organizations, it is widely recognized as the beginning of modern political and public awareness of global environmental problems.

We believe natural gas provides an alternative to customers looking to reduce their environmental impact and has the potential to reduce operating costs.

## What are Volvo's current and planned vehicle offerings in the NGV market? (would be great to hear as much as possible on your upcoming 13L engine)?

Volvo continues to meet demand for natural gas-powered vehicles with our VNM and VNL series paired with Cummins Westport spark ignition engines. We're working toward expanding our product portfolio to address higher gross and higher torque applications with our own compression-ignition natural gas engine. The D13-LNG engine is based on Volvo D13 engine, the world's most popular engine platform greater than 10 liters. We plan to have the engine in late 2015 and rated at 475 hp and 1750 lb.-ft. of torque. Because it is a compression ignition engine using high-pressure direct injection, it will offer diesel-like fuel efficiency and compression braking.

## What customer segments do you see as benefiting most from your vehicle options?

The introduction of the Cummins Westport ISX 12G has taken natural gas into class 8 market further than it could using the lighter duty, Cummins Westport ISL-G. The 80,000 pound, ISX 12G with 1450 lb.-ft of torque meets the regional hauler needs where Volvo is well represented. Long-haul and long-combination vehicle operations will benefit from our planned introduction of the Volvo D13-LNG engine, given the additional power and greater range capabilities.

## What do you tell customers interested in natural gas vehicles?

We work with customers to provide as much information as possible about the direction of the industry and products to help ensure they're making the right decision. We are both making significant investments, financially and with respect to the company reputations. The vehicles cost significantly more than an equivalent diesel-powered model, so they need the right specifications and lifetime care to get the payback and savings customers expect. Our customers choose Volvo natural gas trucks for both economic and environmental reasons and because of their want to operate in a sustainable manner like many customers we are involved.

## What do you see as the major benefits of Natural Gas as a fuel option over other fuel types?

There are three major natural gas drivers from my perspective – economics, the environment and shippers. The fuel price, its stability, availability and the diesel differential build a strong case for substituting natural gas because fuel is usually one of the highest operational costs. This, along with potential for energy independence means better cash flow and spending forecast.

Operators place more value on "green marketing," and being able to quantify lower CO<sub>2</sub> emissions is also an attractive driver for natural gas. A vehicle operating 100,000 miles per year will produce 50,000 pounds, or about 15 percent, less CO<sub>2</sub>, even taking into account the reduced efficiencies of spark ignited engines.

Shippers are the third driver. I believe they see natural gas as a way of reducing shipping costs and eliminating diesel surcharges. Although those are the market drivers, there are barriers that still need to be addressed.

## What advice would you offer customers considering a switch to Natural Gas? (what key considerations do you feel need to be made)?

While natural gas has the potential to drive down the cost of fuel, fuel costs are only about 25 to 35 percent of the average fleets' operations. I recommend that fleets understand and consider all costs before adding natural gas trucks. Here are a few additional considerations that need to be part of the equation:

**Capital cost** – Natural gas-powered trucks can cost significantly more than a comparable diesel model because of the increased costs of the engine and tanks.

**Vehicle range/weight** – The weight of a natural gas truck can be up to 4,000 pounds more when looking

for a truck that can travel reasonable distances between refuelling. Two things to remember are that the fuel economy of a spark ignited engine is between 9 to 15% less than a diesel and when using a fast fill fuel system, the tanks will fill up to 75 to 80%, not the full 100% like diesel. You may have 190 DGE fuel tanks and expect to be able to travel about 1000 miles at 6.5 MPG, but in reality you'll only get about 600 miles when including the engine and fuelling inefficiencies.

**Payback period** – The more miles the truck travels each year, the greater the effect of the price difference between natural gas and diesel fuel. Expect to see a 2 ½ to 3 year break-even point.

**Infrastructure** – The CNG infrastructure is improving but it not where it needs to be. This means natural gas is best applied to dedicated routes and customers must have a clear understanding of the vehicle range based on natural gas engine fuel economy and fill factor when using either fast fill or time fill methods.

**Reliability / durability** – There are two major changes to the natural gas vehicle – the engine and the fuel system. It's important to deal with a company that has the resources and experience to manufacturer, install and most importantly, service the components used in natural gas engines. This is especially true on the tank and fuel system used on the truck.

**Facilities modification cost** – Cost to modify existing locations can start at \$20,000 or more and require the approval of local fire authorities using various standards. Experience is a valuable asset when modifying or building a facility for servicing a natural gas vehicle, a consultant may be the right approach.

**Technician knowledge and ability** – Operators doing their own maintenance and /or repair know the challenges of finding and keeping good, well trained technicians. In addition to maintaining the engines,

the tanks and fuelling systems add additional education and certification requirements.

**Grants and Incentives** – These are available on a state level and can help offset some of the premium of the vehicle or fuelling stations.

## Outside of your vehicle developments are there other ways in which Volvo are working to help support the overall development of the NGV market in North America? (any specific initiatives or strategic partnerships?)

Volvo Trucks and Shell announced a formal agreement to collaborate and coordinate activities supporting the wider use of LNG as a fuel for heavy-duty commercial vehicles. The global, non-exclusive agreement will include collaboration on issues like fuel specification and emissions performance, as well as general sharing of knowledge and experience with all aspects of the developing market.

## What's your outlook for growth within the NGV market over the next 2-3 years?

Industry forecasts show a 2% average growth each year through 2017. We are optimistic about the infrastructure improvements and believe that will help maintain growing natural gas adoption. There are some customers able to fund both product and infrastructure to their advantage and in doing so assist other companies in moving forward. As fuel suppliers are able to find more anchor customers, small organizations will add more trucks to the mix. We are still a few years from a convergence all the needed elements for a strong natural gas market, but we are enthusiastic about the signs we are seeing.

Source: FC Gas Intelligence, ngvevent.com



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